NON-PUBLIC?: N
ACCESSION #: 8810120036
LICENSEE EVENT REPORT (LER)

FACILITY NAME: Grand Gulf Nuclear Station - Unit 1 PAGE: 1 OF 4

DOCKET NUMBER: 05000416

TITLE: Reactor Scram Due to Tag-Out Error
EVENT DATE: 09/05/88 LER #: 88-013-00 REPORT DATE: 10/05/88

OPERATING MODE: 1 POWER LEVEL: 100

THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR SECTION
10.73(a)(2)(iv)

LICENSEE CONTACT FOR THIS LER:
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Plant Licensing Engineer TELEPHONE: 601-437-2149

COMPONENT FAILURE DESCRIPTION:
CAUSE: SYSTEM: COMPONENT: MANUFACTURER:
REPORTABLE TO NPRDS:

SUPPLEMENTAL REPORT EXPECTED: NO

ABSTRACT:

On September 5, 1988 a secondary containment isolation valve failed to close within the required time limit during a quarterly surveillance. The redundant isolation valve was closed and an equipment clearance was issued to deactivate it in accordance with the Technical Specification Limiting Condition for Operation.

A power panel breaker was opened to deactivate the redundant valve. The breaker powered 17 other isolation valves, including an auxiliary building isolation valve and a containment isolation valve in the instrument air system. When the breaker was opened these valves closed. The isolated instrument air header began to depressurize, resulting in multiple control rod drifts. Operators initiated a manual scram in accordance with the off-normal event procedure; however, an automatic scram on scram discharge volume high water level was received just prior to the manual actuation.

Corrective actions include disciplinary action, training of personnel, installing caution labels on ESF power panels which feed isolation valves, and

developing a controlled document for assessing the impact of operating power panel breakers.

END OF ABSTRACT

A. REPORTABLE EVENT

On September 5, 1988 the reactor automatically scrammed on scram discharge volume high water level. This actuation of the reactor protection system is reportable pursuant to 10CFR50.73(a)(2)(iv).

B. INITIAL CONDITIONS

Prior to the reactor trip, the plant was operating at 100 percent power.

C. DESCRIPTION OF OCCURRENCE

On September 5, 1988 operators were performin
the quarterly surveillance for
Fire Suppression System valves. The surveillance determines operability of the secondary containment automatic isolation valves in the Fire Suppression System.

During the surveillance, air operated valve P64F282B (EIIS Code: GG-lKP-ISV) failed to meet its required stroke time. The valve closing time was recorded as 5.6 seconds. The Technical Specification closing time limit is 4.0 seconds. The Limiting Condition of Operation (LCO) for Technical Specification 3.6.6.2 was entered at 1700 and a Maintenance Work Order was issued to investigate the cause of the failure.

The redundant isolation valve, P64F282A, was determined by test to be operable. Operators prepared to close and deactivate valve P64F282A in accordance with the LCO action requirements.

An equipment clearance tag was issued to deactivate valve P64F282A by removing a fuse and opening the power panel breaker for the valve operator. When the breaker was opened at 1828, 13 other secondary containment isolation valves and 4 primary containment isolation valves closed because the breaker supplied power to the solenoids of these air operated valves. Two of the valves which closed were in the instrument air supply header (EIIS system code: LD). By the time the breaker was reclosed and instrument air was restored, control rods were drifting into the reactor core because of low air pressure to the scram valves.

Operators initiated a manual scram at 1830 in accordance with the off-normal event procedure. The off-normal event procedure instructs the operators to manually scram the reactor if multiple control rods drift or scram. However, it was determined that an automatic scram on a high water level in the scram discharge volume occurred just prior to the manual actuation.

D. APPARENT CAUSE

The cause of the event was personnel error in failing to adequately evaluate the effect of the tag-out on all equipment prior to opening the power panel breaker. Operators used the System Operating Instruction (SOI) to determine the correct breaker for valve P64F282A. The SOIs do not indicate what additional equipment is powered from power panel breakers.

Communication problems, although not contributing to the cause of the event, delayed remedial actions to restore instrument air. Several attempts to contact the operator at the local panel were unsuccessful which delayed reclosing the breaker and restoring instrument air pressure to the scram valves. The switchgear room is not equipped with a plant paging speaker. Radio reception in this area was poor.

A similar event occurred on June 30, 1987 (LER 87-010) when operators opened a power panel breaker for an equipment clearance causing 18 isolation valves to close. Corrective actions taken at that time were to change the protective tagging procedure to require a detailed investigation of the effect on all related equipment prior to performing tag-outs on power panel breakers. The LER and procedure change were provided in the night orders for the training of each Operations shift crew.

The training accomplished on the procedure change through the night orders was not effective. Since the 1987 incident, administrative procedures were changed to require a review of personnel error incidents by an Incident Review Board (IRB) within 48 hours of the event. The IRB determines which departments must conduct a training session on the event and on the immediate corrective actions to be taken. These sessions are conducted with employees by section management and are judged to be more effective.

E. SUPPLEMENTAL CORRECTIVE ACTIONS

Training sessions were held with each Operations shift crew prior to the beginning of their shift. In these sessions, management discussed this incident and the previous incident reported in LER 87-010. A standing order was issued temporarily to limit the use of power panel breakers for equipment tag-outs until improved controls could be implemented. Appropriate Plant

Modification and Construction personnel and Plant Maintenance personnel were also informed of the incident and the order limiting the use of power panel breakers as equipment tag-outs. Additional training on other 1987 and 1988 incidents and LERs involving personnel error was also conducted with each Operations shift.

Caution labels were installed on all ESF power panels which feed isolation valves. The labels require operators to make an additional notification to the Shift Supervisor or Shift Superintendent prior to opening breakers in the panels. The plant tagging procedure was changed to require this notification regardless of any previous permission received. The requirement for a detailed investigation when tagging out power panel breakers has now been highlighted in the protective tagging procedure as a caution rather than a normal action step. The protective tagging procedure was also changed to require another Operations review in addition to the review performed by the Shift Supervisor/Shift Superintendent prior to issuing equipment clearance tags. A controlled document listing the equipment which is supplied power by power panel breakers will be developed prior to the next refueling outage.

An evaluation of the plant communications equipment is in progress to determine what additional improvements can be made. This evaluation is expected to be completed by January 1, 1989.

The two exhaust solenoid valves on the actuator for valve P64F282B were disassembled and cleaned. P64F282B was then successfully tested. The closing time was found to be 3.8 seconds.

Disciplinary actions were taken with the Shift Superintendent, Shift Supervisor, and Reactor Operator.

F. SAFETY ASSESSMENT

Reactor water level did not reach any levels requiring the use of ECCS systems. Reactor water level dropped below the low level scram setpoint approximately 4 seconds after the scram, but was restored above the setpoint approximately 10 seconds later.

SYSTEM ENERGY
RESOURCES, INC.

JOHN G CESARE, JR
Director October 5, 1988

Nuclear Licensing

U.S. Nuclear Regulatory Commission
Mail Station Pl-137
Washington, D. C. 20555

Attention: Document Control Desk

Gentlemen:
SUBJECT: Grand Gulf Nuclear Station
Unit 1
Docket No. 50-416
License No. NPF-29
Reactor Scram Due to Tag-Out
Error
LER 88-013-00
AECM-88/0191

Attached is Licensee Event Report (LER) 88-013-00 which is a final report.

Yours truly,

JGC:mcg
Attachment

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